9800098

THE UNIVERD STRAILES OF ANTERIOA

TO ALL TO WHOM THESE; PRESENTS; SHALL, COME;:

Minnesota Agriculturul Experiment Station Anibersity of Minnesota

HIGGERS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT; THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, FEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FIES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS OM SELLING THE VARIETY, OR OFFICING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, ONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN THE UNITED STATES SEED OF THIS VARIETY (I) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASSIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RESEARCH OF STATES AS AMENDED, 7 U.S.C., 2321 ET SEQ.)

SOYBEAN

'MN0301'

In Training Therest, I have hereunto set my hand and caused the seal of the Plant Bariety Protection Office to be affixed at the City of Washington, D.C. this twenty sixth day of November, in the year two thousand two.

Atlast:

Commissioner Plant Variety Protection Office Agricultural Marketing Service

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REPRODUCE LOCALLY. Include form number and date on all reproductions. U.S. DEPARTMENT OF AGRICULTURE		FORM APPROVED - OMB NO. 0581-0055			
AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE	The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.				
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE (Instructions and information collection burden statement on reverse)	Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).				
NAME OF APPLICANT(S) (as it is to appear on the Certificate)	2. TEMPORARY DESIGNATION OR	3. VARIETY NAME			
Minnesota Agricultural Experiment Station University of Minnesota	M89-111	MN9391 (BT#11/15/02)			
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 190 Coffey Hall R.S. (2 ¹ 98 1420 Eckles Avenue St. Paul, MN 55108	5. TELEPHONE (include area code) 9743 (612) 625-4211 (87)1/15/202	FOR OFFICIAL USE ONLY PYPO NUMBER 9800098			
	(612) 624 7724 (1668)	01/20/1998			
7. GENUS AND SPECIES NAME 8. FAMILY NAME (Bota	nical)	FIUNG AND EXAMINATION FEE:			
Glycine max Legumin	osae	E = 2,4000			
9. CROP KIND NAME (Common name)		S DATE 1/10/9(/			
Soybean		C CERTIFICATION FEE:			
10. If THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partners University	ship, association, etc.) (Common name)	c CERTIFICATION FEE: \$ 320			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION	D 9/20/02			
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION	AND RECEIVE ALL PAPERS	14. TELEPHONE (include area code)			
J.H. Orf		(612) 625-8275			
Department of Agronomy and Plant Genetics, 411 Bo University of Minnesota 1991 Upper Buford Circle	rlaug Hall,	16. FAX (include area code) (612) 625-1268			
St. Paul. MN 55108 16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)					
a. XXExhibit A. Origin and Breeding History of the Variety					
b. Exhibit B. Statement of Distinctness c. Exhibit C. Objective Description of the Variety	entropies de la companya de la comp La companya de la co				
d. Exhibit D. Additional Description of the Variety (Optional)					
e. XXExhibit E. Statement of the Basis of the Applicant's Ownership		White .			
f. 1 Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that g. 1 Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to P		d in an approved public repository)			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY. AS XXYES (If "yes," answer items 18 and 19 below) \[\int NO (II The Property of the Property o	the state of the s	83(a) of the Plant Variety Protection Acti			
	9. IF "YES" TO ITEM 18, WHICH CLASSES C	F PRODUCTION BEYOND BREEDER SEED?			
GENERATIONS? AAYES NO	(FOUNDATION REGISTERED	CERTIFIED			
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED F	OR SALE, OR MARKETED IN THE U.S. OR OT	THER COUNTRIES?			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application	and will be replanished upon request in accord	ance with such regulations as may be			
applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and ma The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection 4	sintained for the duration of the certificate, ety, and believe(s) that the variety is new, dist				
Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penaltic	*				
SIGNATURE OF APPLICANT 10 WINGSTAND SIGNATURE OF APPLICANT SIGNATURE SI	RE OF APPLICANT (Owner(s))				
AME Please print or Spel	lease print or type)				
Marilyn R. Delong APACITY OR TITLE DATE CAPACITY CAP	Y OR TITLE	DATE			
Deputy Director, MAES 1/27/98	2	<u></u>			
TD 470 top on the state of the	- 10 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	f			

Exhibit A

Origin and Breeding History of MN0301 Soybean

'MN0301' soybean traces to the F₄ progeny of a F₃ plant harvested from a population that had been advanced by a modified single seed descent procedure from the cross Maple Donovan x M82-303. The pedigree of M82-303 is M70-330 x M68-176. M70-330 is a selection from M62-93 x M64-3. M62-93 has the pedigree Merit x M406. M406 has the pedigree Harosoy x Norchief. M64-3 is a selection from the cross Traverse x PI 196163. PI 196163 is the variety Tokachinagaha introduced from Japan in 1951. M68-176 has the pedigree Merit x Beeson. Bulked seed of the F₄ row was designated M89-111 and was used for yield testing in the F₅ (1990). Subsequent tests of strain M89-111 (SL89-111 or ND(M) 89-111) were conducted in North Dakota in the F_6 (1991) and F_7 (1992) and in Minnesota in the F_7 (1992). In the F_7 generation 50 typical plants were harvested individually to initiate purification for observable traits including reaction to race 1 of phytophthora root rot. In the F₈ (1993) M89-111 (SL89-111) was entered in the maturity group 0 Regional Soybean test. In 1993 forty rows were grown for purification purposes. Twenty-one rows appeared uniform for plant and seed characteristics including reaction to race 1 of phytophthora root rot, therefore seed of these rows were bulked to provide breeder's seed. In the F_9 (1994), F_{10} (1995), F_{11} (1996) M89-111 continued to be tested in the Uniform Regional Soybean Test Maturity Group O. In the F₉ (1994) a small increase of breeders seed was made. In the F₁₀ (1995) Foundation Seed was produced by the Minnesota Foundation Seed Organization. In 1996 Foundation Seed was shared with other states for increase. In the F_{11} (1996) seed was increased and M89-111 was approved for release as MN0301. On February 15, 1997 seed of MN0301 was released to growers in Minnesota and South Dakota. No off type or variants were noted in the seed multiplication process of MN0301 over three generations. MN0301 has been stable and uniform for the characteristics described in Exhibit C and meets seed certification standards.

TEACORNE TEE

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Exhibit B

Statement of Distinctiveness

MN0301 soybean is most similar to 'Agassiz' soybean. MN0301 is approximately three days later in maturity than Agassiz. The yield of MN0301 is about 10% greater than Agassiz. MN0301 is about two inches taller than Agassiz. Seed of MN0301 is about 1.2 grams per 100 seed larger than Agassiz. MN0301 has about 1.3 percent lower protein content and similar oil content compared to Agassiz. Seed of MN0301 has yellow hila while seed of Agassiz has buff hila.

Data comparing MN0301 and Agassiz is taken from the Uniform Test 0, Northern States 1993-1996 (a total of 27 tests for most tests).

Variety	Date mature	Yield bu/a	Height inches	Lodging score	Seed quality score	Seed size g/100	Protein %	Oil %	
MN0301	9/14	45.0	31 (79 6	m) 1.7	1.8	16.0	41.0	20.3 A	11/2003 on 13
Agassiz	9/11	40.9	29 (74 0 bl :1	m) 1.4 1/2/2002 per app	1.8 Aicahon's per	14.8	42.5	20.1	el of whee

AGRICULTURAL MARKETING SERVICE

PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY SOYBEAN (Glycine max L.)

301BEA	™ (Glycine max L.)		
	TEMPORARY DESIGNATION	VARIETY NAME	
Minnesota Agricultural Experiment Station University of Minnesota	M09-111 ·	MN0301	·
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code,			CIAL USE ONLY
190 Coffey Hall A 197 198 1420 Eckles Avenue St. Paul, MN 55108		PVPO NUMBER 8 ()	0098
Choose the appropriate response which characterizes the varie in your answer is fewer than the number of boxes provided, p Starred characters ** are considered fundamental to an adequate when information is available.	lace a zero in the first box w	hen number is 9 or le	ss (e.g. 0 9)
1 SEED SHAPE:		· · · · · · · · · · · · · · · · · · ·	
1 = Spherical (L/W, L/T, and T/W ratios = < 1.2) 3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)	2 = Spherical Flattened (I 4 = Elongate Flattened (I		
★ 2. SEED COAT COLOR: (Mature Seed)	•		
1 = Yellow 2 = Green 3 = Brown	4 = Black 5 = Other /3	Specify)	· · · · · · · · · · · · · · · · · · ·
3. SEED COAT LUSTER: (Mature Hand Shelled Seed)			
1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy')	'Gasoy 17')		•
★ 4. SEED SIZE: (Mature Seed)			
1 6 Grams per 100 seeds	•		•
★ 5. HILUM COLOR: (Mature Seed)	•	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
2 1 = Buff 2 = Yellow 3 = Brown 4 =	Gray 5 = Imperfect Black	.6 = Black	7 = Other (Specify)
★ 6. COTYLEDON COLOR: (Mature Seed)			
1 = Yellow 2 = Green			
7. SEED PROTEIN PEROXIDASE ACTIVITY:			
2 1 = Low 2 = High			
8. SEED PROTEIN ELECTROPHORETIC BAND:			
2 1 = Type A (SP1 ^a) 2 = Type B (SP1 ^b)		•	
9. HYPOCOTYL COLOR:	·		
1 = Green only ('Evans'; 'Davis') 2 = Green with bro 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71') 4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Cok	onze band below cotyledons (Wo	odworth'; 'Tracy')	
10. LEAFLET SHAPE:			
3 1 = Lanceolate 2 = Oval 3 = Ovate	4 = Other (Specify)		

11. LE	AFLET SIZE:
2	1 = Small ('Amsoy 71': 'A5312')
12 1 F	AF COLOR:
[3	The Links Conner Miller of the
★ 13. FLC	OWER COLOR:
2	1 = White 2 = Purple 3 = White with purple throat
★ 14, POE	COLOR:
2	1 = Tarı 2 = Brown 3 = Black
★ 15. PLA	NT PUBESCENCE COLOR:
1	1 = Gray 2 = Brown (Tawny)
16, PLA	NT TYPES:
2	1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton') 3 = Bushy ('Gnome'; 'Govan')
★ 17. PLAI	NT HABIT;
3	1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will') 3 = Indeterminate ('Nebsoy'; 'Improved Pelican')
★ .18. MAT	URITY GROUP:
0 3	1 = 600 2 = 00 3 = 0 4 = 1 5 = II 6 = III 7 = IV 8 = V 9 = VI 10 = VII 11 = VIII 12 = IX 13 = X
★ 19. DISE	ASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)
•	TERIAL DISEASES:
★ \[\[\sqrt{0} \]	Bacterial Pustule (Xanthomonas phaseoli var. sojensis)
* [0]	•
★ 0	Bacterial Blight (Pseudomonas glycinea) Wildfire (Pseudomonas tabaci)
	AL DISEASES:
* 0	Brown Spot (Septoria glycines)
نــا	
* [0]	Race 1 Race 2 Race 3 Race 4 Race 5 Other (Specify)
0	Target Spot (Corynespora cassiicola)
0	Downy Mildew (Peronospora trifoliorum var. manshurica)
0	Powdery Mildew (Microsphaera diffusa)
* 1	Brown Stem Rot (Cephalosporium gregatum)
	Stem Canker (Diaporthe phaseolorum var. caulivoral

19. DISEASE REACT	ION: (Enter 0 = Not Tested; 1 = Susceptib	ole; 2 = Resistant) (Continued)	0000	—
	ASES: (Continued)		98000038	
★ 0 Pod and	Stem Blight <i>(Diaporthe phaseolorum var: so</i>	iae)	• .	
	ed Stain (Cercospora kikuchii)			
0 Rhizocto	nia Root Rot <i>(Rhizoctonia solani)</i>	• _		
_	nora Rot <i>(Phytophthora megasperma var. si</i>	oisel		
★ 2 Race 1	0 Race 2 1 Race 3			
0 Race 8	0 Race 9 Other (Spec	THE THE PARTY NAC	e 5 Race 6 Race 7	
VIRAL DISEASI				
	(Tobacco Ringspot Virus)	•		
	osaic (Bean Yellow Mosaic Virus)	•		
4 [6]		••		
	osaic (Cowpea Chlorotic Virus)			
٠. [۵]	(Bean Pod Mottle Virus)			
, , , , , , , , , , , , , , , , , , , ,	e (Soybean Mosaic Virus)			
NEMATODE DIS				
	rst Nematode (Heterodera glycines)			
★ 1 Race 1	0 Race 2 0 Race 3	O Race 4 Other	(Specify)	
O Lance Nema	atode (Hoplolaimus Colombus)		· ·	
Southern R	oot Knot Nematode (Meloidogyne incognit	a)		
. * 0 Northern Ro	oot Knot Nematode (Meloidogyne Hapla)		,	
0 Peanut Root	Knot Nematode (Meloidogynė arenaria)			
0 Reniform No	ematode (Rotylenchulus reniformis)		•	
0 OTHER DIS	EASE NOT ON FORM (Specify):			
		· · · · · · · · · · · · · · · · · · ·	•	
	SPONSES: (Enter 0 = Not Tested; 1 = Sur	sceptible; 2 = Resistant)		
Iron Chlorosi	s on Calcareous Soil	•	·	
O Other (Specif	<u> </u>			
	(Enter 0 = Not Tested; 1 = Susceptible; 2 =	Resistant)		
Mexican Bean	Beetle (Epilachna varivestis)			
O Potato Leaf H	lopper (Empoasca fabae)			
Other (Specify	<i>/</i>			
22. INDICATE WHICH VA	RIETY MOST CLOSELY RESEMBLES TO	HAT SUBMITTED		
CHARACTER	NAME OF VARIETY	T		
Plant Shape	Ozzie	CHARACTER Seed Coat Luster	NAME OF VARIETY 0zzie	
Leaf Shape	Ozzie	Seed Size		
Leaf Color	Ozzie	Seed Shape	Ozzie Ozzie	
Leaf Size	0zzie	Seedling Pigmentation		
			0zzie	<u></u>
ORM LMGS-470-57 (6-83)			Page 3	<u>(2)</u>

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data 1993-1996 URT Group 0

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100	NO. SEEDS/
				CM Width	CM Length	% Protein	% Oii	SEEDS	POD
MN0301 Submitted	119	1.7	79	71	114	41.0	20.5 bt	36.0	2.4
Agassiz Name of Similar Variety	116	1.4	73	67	113	42.5	20.1 1x:	8/4/2008 14.8	2.4

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

- 1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
- 2. Buttery, B.R. and R.I. Buzzell, 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
- 3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
- 4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

MEPHODUCE LOCALLY. Include form number and date on all reproductions. U.S. DEPARTMENT OF AGRICULTURE		FORM APPROVED - OMB NO. 0581-00		
AGRICULTURAL MARKETING SERVICE	1374 (5 0,5.C. 55287 and the Pape	made in accordance with the Privacy Act Paperwork Reduction Act (PRA) of 1995.		
EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	Application is required in order to certificate is to be issued (7 U.S.C. until certificate is issued (7 U.S.C.	determine if a plant variety protecti 2421). Information is held confident 2426).		
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME		
Minnesota Agricultural Experiment Station University of Minnesota	OR EXPERIMENTAL NUMBER M89-111	'MN&5&1' (BT:11/15/02)		
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)	E TELEPHONE C	C FAV		
190 Coffey Hall R. 3/127/96 1420 Eckles Avenue St. Paul, MN 55108	5. TELEPHONE (include area code) (612) 625-4211 7. PVPO NUMBER 980	6. FAX (include area code) (612) 625-0286		
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate	block. If no, please explain.			
	•	XX YESNO		
	·			
Is the applicant (individual or company) a U.S. national or U.S. based, compartif no, give name of country	ny?	XX YESNO		
10. Is the applicant the original owner? XYES NO ff no, please a	nswer the following:	•		
	nower the rollowing,	•		
a. If original rights to variety were owned by individual(s), is (are)	the original owner(s) a U.S. national	al(s)?		
YES NO If no, give name of country				
· ·				
b. If original rights to variety were owned by a company, is the or YES NO If no, give name of country	iginal owner(s) a U.S. based compa	ny?		
11. Additional explanation on ownership (If needed, use reverse for extra space)				
The University of Minnesota is the employer of		ped MN 0301.		
·				
LEASE NOTE:				
ant variety protection can be afforded only to owners (not licensees) who meet o	one of the following criteria:			
If the rights to the variety are owned by the original breeder, that person must of a country which affords similar protection to nationals of the U.S. for the sa	be a U.S. national, national of a U me genus and species.	POV member country, or national		
If the rights to the variety are owned by the company which employed the originationals of a UPOV member country, or owned by nationals of a country which genus and species.	inal breeder(s), the company must ch affords similar protection to nati	be U.S. based, owned by onals of the U.S. for the same		
If the applicant is an owner who is not the original owner, both the original own	ner and the applicant must meet on	e of the above criteria.		
e original breeder/owner may be the individual or company who directed final bro	•			
cording to the Paperwork Reduction Act of 1995, no persons are required to rentrol number. The valid OMB control number for this information collection lection is estimated to average 10 minutes per response, including the time for maintaining the data needed, and completing and reviewing the collection of in	is 0581-0055. The time requir	ad to complete this information		
e U.S. Department of Agriculture (USDA) prohibits discrimination in its progra ability, political beliefs, and marital or familial status. (Not all prohibited ba-	ses sooks to sil executed l. Perso	ational origin, sex, religion, age, ons with disabilities who require USDA Office of Communications		